

A Case Study

Odour Control for Shrimp feed Manufacturing in Andhra Pradesh

Background

A leading manufacturer of high-quality shrimp feed faced a significant odour management challenge at its production facility. While fishmeal is essential for enhancing the nutritional value of shrimp feed, it also releases strong and persistent fishy odours during the manufacturing process, affecting both the working environment and surrounding communities.

The shrimp feed production process uses several raw materials and has several stages including: grinding, cooking and cooling. Though the emission from the grinder steam is characterised by large volume of low intensity odours compared to the cooking/drying/cooling stream. The later is lower flow, high intensity odour along with its characteristic high temperature nature, The cooking, drying, and cooling exhausts are the most significant sources of odorous emissions, releasing compounds such as trimethylamines, diamines, and ammonia and so on.

Here in this project, Elixir Enviro Systems (www.elixirenviro.in) is asked to contain the odour emission from both the grinder and the cooking/drying/cooling air streams. To address this challenge, Elixir Enviro Systems Pvt Ltd has designed and installed comprehensive odour control system by integrating the EES-DustX water scrubber, EES-BioCube Biofilters and EES-Rapid High Rate Biofilters along with as well.

Performance

The odour assessment revealed that the biofilter system achieved a high removal efficiency of up to 98.78%, significantly reducing strong odorous emissions from the production process. The following table summarizes the odour measurements taken at various points and by different assessors.

Sample #	Biofilter Inlet OU (DT)	Biofilter Outlet OU (DT)	Removal Efficiency (%)
Sample 1	3828	130	98.78%
Sample 2	11,835	88	
Sample 3	14,229	130	

OU – Odour Unit; DT – Detection Threshold



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